

#### IV.—Some Crustacea of Natal,

by the

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WITH PLATES VIII—XII.

IN the present contribution, species belonging to seventeen families of Malacostraca and of Leptostraca are considered for various reasons, in several cases chiefly for the notes supplied by Mr. H. W. Bell Marley on the habits and colours of the freshly captured specimens. Among the Brachyura anomala a new species is described as *Cryptodromia monodous*. A new species is added to the Isopoda anomala under the name *Haplocope oculatus*. The Amphipoda are provided with three new species and a new genus, *Microlysias*, to which may be added a detailed account of *Echyaella natalensis*, both genus and species having been briefly introduced in December, 1917.

But the point which has, perhaps, the best chance of exciting something like general interest rests with the association of species from thirteen different genera found all sheltering in a single specimen of a sponge. It may be convenient here to bring together the names of this motley assemblage of crustaceans. They are *Eriphia scabriculus*, Dana; *Petrolisthes speciosus* (Dana); *Porcellana dehaanii*, Krauss; *Processa* sp.; *Tanais philetarus*, Stebbing; *Leptochelia dubius* (Kröyer); *Haplocope oculatus*, sp. nov.; *Paramera schizurus*, sp. nov.; *Echyaella natalensis*, Stebbing; *Eurystheus holmesi*, Stebbing; *Cheiriphotis walkeri*, sp. nov.; *Podocerus inconspicuus* (Stebbing); *Nebalia bipes* (O. Fabricius). Besides these there were other amphipods too mutilated after their long journey to repay investigation, and some miscellaneous objects, including a small star-fish. The protection which sponges afford to Crustacea has, of course, been long ago noticed by several writers, such as Canon Norman, the late H. J. Carter, F.R.S., and E. J. Miers. Also, M. Ed. Chevreux found twenty-three species of amphipods among the alien growths on the carapace of *Mamaia squinado*, probably distributed over several specimens. Similarly, it is not clear that the ten species in Dr. Willey's gregarious Crustacea from submerged cocoa-nut piles in Ceylon were found together on any single pile.

(47)

## BRACHYURA GENUINA.

## TRIBE OXYRRHYNCHA.

## FAMILY MAMAIDÆ.

See Ann. S. Afr. Mus., vol. vi, pt. 4, p. 290, 1910.

## GENUS CAMPOSCIA, Leach.

1829. *Camposcia*, Leach, in Latreille, Le Règne Animal, vol. iv, p. 60.  
 1829. *C.*, Guérin, Iconographie du Règne Animal, p. 9, pl. 9, fig. 1.  
 1839. *C.*, de Haan, Crust. Japonica, decas quarta, p. 87.

## CAMPOSCIA RETUSUS, Latreille.

1829. *Camposcia retuja*, Latreille, Le Règne Animal, vol. iv, p. 60.  
 1829. *C. r.*, Guérin, Icon. Règne Animal, pl. 9, fig. 1 (*retusa* on p. 9).  
 1834. *C. retusa*, Milne Edwards, Hist. Nat. Crust., vol. i, p. 283, pl. 15, fig. 15.  
 1839. *C. retusus*, de Haan, Crust. Japon., pl. li.  
 1895. *C. retusa*, Alcock, Journ. Asiat. Soc. Bengal, vol. lxiv, p. 184.  
 1906. *C. r.*, R. D. Laurie, Herdman's Pearl Fish., Rep. xl, in pt. v, p. 371.

Alcock supplies an ample bibliography and an excellent description of this species, ignoring however its original name, *retuja*, which was no doubt due to a misreading of the manuscript label, *retufa*. It may be noted that the fourth joint of the third maxillipeds, though narrow at the base, is expanded distally. The extension of the third joint along the inner margin of the fourth is a notable feature. The carapace of the female specimen collected by Mr. Bell Marley at Durban measures roughly 40 mm. in length by 27 mm. in breadth. The pleon is, as described by de Haan, in the last four segments widely orbicular. According to Mr. Bell Marley, its coating of dark red hairs accumulates a variety of objects, such as seedpods of mangroves, so that as it floats about with the tide it looks more like a bunch of seaweed than a crab.

FAMILY ACANTHONYCHIDÆ.

GENUS ANTILIBINIA, M<sup>c</sup>Leay.

ANTILIBINIA SMITHII, M<sup>c</sup>Leay.

See Ann. S. Afr. Mus., vol. vi, pt. 4. pp. 286, 287, 1910.

A male specimen, taken by Mr. Bell Marley at Vetch's Pier, Durban, last year, has a carapace measuring 20 mm. in length and about 16 mm. in width, therefore much smaller than the specimens described by M<sup>c</sup>Leay and Krauss. The pleon answers to the figure given by the latter, being seven-segmented, but with the median segments perhaps immovable. Krauss says that this species is never overgrown with marine organisms, and the present specimen answers to that statement, but, whereas M<sup>c</sup>Leay says that "the shell of this species is without hairs," here the numerous tubercles which he describes are conspicuously furnished with groups of setæ, which probably enable it to dispense with alien growths. The brown spots are still visible all over the under surface and in some other parts of the specimen.

GENUS DEHAANIUS, M<sup>c</sup>Leay.

See Gilchrist's Marine Investigations, vol. i, p. 18, 1900.

DEHAANIUS QUADRIDENTATUS (Krauss).

See Ann. S. Afr. Mus., vol. vi, p. 288, 1910.

A male specimen from Isipingo, Natal, has been sent me by Mr. Bell Marley. It was taken on seaweed, and some of its numerous curved setæ were furnished with the weed, faded but greenish. Its length in the middle line is 15 mm., or 17 mm. if extended to a point between the tips of the horns. The breadth between the tips of the penultimate lateral teeth of the carapace is 12 mm. The size is therefore rather larger than that given by Krauss, but the proportions do not materially differ. Krauss states the colour to be yellowish-brown; Mr. Bell Marley records it as green. In other respects it closely agrees with the description and figures supplied by Krauss.

FAMILY BLASTIDÆ.

See Ann. S. Afr. Mus., vol. vi, p. 288, 1910.

## GENUS HYASTENUS, White.

1847. *Hyastenus*, White, Proc. Zool. Soc., p. 56.  
 1895. *H.*, Alcock, Journ. Asiat. Soc. Bengal, vol. lxiv, p. 206.

Many later references might be given, but they are not appropriate to the present occasion.

## HYASTENUS FASCICULARIS (Krauss).

1843. *Pisa fascicularis*, Krauss, Südafrik. Crust., p. 50, pl. 3, figs. 5, a-d.  
 1910. *P. f.*, Stebbing, Ann. S. Afr. Mus., vol. vi, p. 288.

The typical *Blastus* (or *Pisa*) *tetraodon* (Pennant) belongs to that division of the family in which the rostral horns do not diverge from the base, as they do in the present South African species. It seems proper, therefore, to transfer it to *Hyastenus*. The male pleon, however, with its widened penultimate segment agrees with that of *Blastus tetraodon*. The Durban specimen, obtained by Mr. T. H. Dale, is about 8 mm. long and slightly over 6 mm. broad. It agrees well with the figures and description given by Krauss. The palp of the first maxilla has a very wide base with a narrow terminal. The third joint of the third maxillipeds has the inner margin fringed with about a dozen very conspicuous teeth; the exopod is rather broad, except distally.

## TRIBE CYCLOMETOPA.

## FAMILY PORTUNIDÆ.

## GENUS CHARYBDIS, de Haan.

See Ann. S. Afr. Mus., vol. vi, p. 306, 1910.

## CHARYBDIS ORIENTALIS, Dana.

1852. *Charybdis orientalis*, Dana, U.S. Expl. Exp., vol. xiii, p. 285, 1855, pl. 17, fig. 10.  
 1899. *C. (Goniosoma) o.*, Alcock, J. Asiat. Soc. Bengal, vol. lxxviii, pp. 50, 63 (with synonymy).  
 1906. *C. o.*, Rathbun, U.S. Fish. Comm. for 1903, pt. 3, p. 872, pl. 13, fig. 1, and text-fig. 32.

Miss Rathbun excludes Alcock's species from the synonymy, but without giving the reasons for so doing, which are not obvious, since Alcock's description seems to include the few points supplied by Dana.

The female specimen collected by Mr. Bell Marley at Durban measures 34 mm. in length by 52 mm. in breadth at the hindmost of the antero-lateral teeth of the carapace. The six frontal teeth are obtuse, especially the median four. The second antero-lateral tooth is very small and the last of the six not larger than the others. The transverse ridges on the carapace correspond with those faintly outlined by Dana. The posterior margin is straighter than that shown by Miss Rathbun. The postero-lateral margins have the lobule which she mentions. Her description gives "hands swollen," Alcock's "hand not tumid"; the Durban specimen agrees with the latter, and has five large spines. The hind border of the sixth joint in the fifth pereopods is denticulate.

#### FAMILY XANTHIDÆ.

#### GENUS XANTHO, Leach.

##### XANTHO QUINQUEDENTATUS, Krauss.

1843. *Xantho 5-dentatus*, Krauss, Süd-afrik. Crust., p. 30, pl. 1, figs. 3, a-c.  
 1910. *X. quinquedentatus*, Stebbing, Ann. S. Afr. Mus., vol. vi, p. 298.

Specimens from the Durban Museum, submitted to me by Mr. E. C. Chubb, completely agree with the figures and description supplied by Krauss.

##### XANTHO DISTINGUENDUS, de Haan.

1835. *Cancer (Xantho) distinguendus*, de Haan, Crust. Japon., decas 2, p. 48, pl. 13, figs. 7, 7a.  
 1858. *Chlorodius d.*, Stimpson, Pr. Ac. Sci. Philad., vol. x, p. 34 (32).  
 1861. *Xantho d.*, Heller, SB. Ak. Wien, vol. xliii, p. 323.  
 1884. *X. macgillivrayi*, Miers, "Alert" Crustacea, p. 211, pl. 20, figs. C, c.  
 1886. *Lophozozymus (Lophoxanthus) bellus*, Stimpson, var. *leucomannus*. Lockington, Miers, "Challenger" Brachyura, p. 115, pl. 11, figs. 1, 1a, 1b.

1887. *Medeus distinguendus*, de Man, Pr. Linn. Soc. London, vol. xxii, p. 31.  
 1893. *M. d.*, Henderson, Tr. Linn. Soc. London, vol. v, p. 359.  
 1898. *Xantho d.*, Alcock, J. Asiat. Soc. Bengal, vol. lxvii, p. 113.

A male specimen which I assign to this species occurred in company with the specimens of *X. quinquedentatus*, from which it is distinguished in many details. As preserved, the lighter colour of the fingers of the chelæ at once attracts attention. The frontal margin, more truncate, is also distinctive, and the dorsal sculpture of the carapace is altogether different. The synonymy, however, for which as so often I am deeply indebted to Alcock's elaborate research, involves some perplexities. Thus the figure by Miers of *X. macgillivrayi* in the "Alert" Crustacea is the only one which, in my opinion, adequately indicates the numerous transverse ridges or series of granules on the carapace. But Henderson thinks de Haan's figure a better representation of *X. macgillivrayi*. Of that species Miers says that the male pleon has "the third to fifth segments coalescent," with which Alcock's account agrees, but of *leucomanus* in the "Challenger" Report we read that of the pleon segments "the third and fourth, and the fifth and sixth, are coalescent."

The carapace of the Durban specimen is 12 mm. long and 17 mm. broad at the hindmost of the antero-lateral teeth. The broader cheliped is on the right. There are other specimens in the collection, and one sent me by Mr. Bell Marley retains elegant colour markings on the carapace.

#### GENUS CHLORODOPSIS, A. Milne-Edwards.

See Ann. S. Afr. Mus., vol. vi, p. 300, 1910.

#### CHLORODOPSIS CÆLATUS (Dana).

1852. *Etisodes cælatus*, Dana, U.S. Expl. Exp., vol. xiii, p. 188, pl. 9, figs. 4a-d.  
 1906. *Chlorodopsis areolata*, Rathbun, U.S. Fish. Comm. for 1903, pt. 3, p. 858.

Miss Rathbun follows Alphonse Milne-Edwards in identifying this species with *C. areolatus* (Milne Edwards). But the Natal specimens obtained at Durban by Mr. D. R. Boyce so well agree with Dana's figures that they may perhaps justify a specific distinction. Dana takes no notice of *C. areolatus*, but must have been well aware that it had been described by Milne Edwards.

GENUS PILUMNUS, Leach, 1815.

See Ann. S. Afr. Mus., vol. vi, p. 301, 1910.

PILUMNUS SPINIFER, Milne Edwards.

1834. *Pilumnus spinifer*, Milne Edwards, Hist. Nat. Crust., vol. i, p. 420.  
1861. *P. savignyi*, Heller, Sitzb. Ak. Wiss. Wien, vol. xliii, p. 345.  
1863. *P. spinifer*, Heller, Crust. südl. Europa, pp. 73, 313.  
1906. *P. savignyi*, Nobili, Bull. Sci. Franco-Belgique, vol. xi, p. 138.  
1907. *P. s.*, Nobili, Ann. Sci. Nat., ser. 7, zool., vol. iv, p. 277.

Milne Edwards and Heller alike refer their species to the figures supplied in Savigny's Crust. d'Egypte, pl. 5, fig. 4, and Nobili in 1906 discusses the difficulty of deciding between the two names, which is enhanced by the fact that Heller himself seems to have changed his mind on the subject between 1861 and 1863.

The shaggy specimen which I am here assigning to the older name is a female obtained by Mr. Bell Marley at Durban. The carapace has a breadth of 25 mm. and a length of 19 mm.

GENUS ERIPHIA, Latreille, 1817.

ERIPHIA SCABRICULUS, Dana, 1852.

See Ann. S. Afr. Mus., vol. vi, pp. 302, 303.

A specimen, male, with carapace measuring 11 mm. in breadth and 8 mm. in length, was obtained by Mr. Bell Marley from the sponge *Cerao chalinus* taken off Vetch's pier, Durban. "Colour carmine, dotted white."

FAMILY CANCRIDÆ.

GENUS KRAUSSIA, Dana.

1852. *Kraussia*, Dana, U.S. Expl. Exp., vol. xiii, pp. 297, 300.

This genus was originally placed by Dana in the *Corystoidea*, family *Thiidae*. In 1887, de Man assigns it to the tribe *Catometopa* (Arch. Naturg., vol. liii, p. 217). In 1899, Alcock places it in the *Cyclometopa*, family *Canceride*, sub-family *Thiinae*. In 1911, Miss Rathbun assigns

it to the *Ateleyclidae* (Tr. Linn. Soc. London, ser. 2, vol. xiv, p. 211). Alcock, in defining the genus, says that the sternum is narrow, but he does not appear to have seen the type species, to which such a statement is surely inapplicable.

KRAUSSIA RUGULOSUS (Krauss).

1843. *Platyonichus rugulosus*, Krauss, Südafrik. Crust., p. 26, pl. 1, figs. 5, a-d.  
 1852. *Kraussia rugulosa*, Dana, U.S. Expl. Exp., vol. xiii, pp. 301, 302; 1855, pl. 19, figs. 1a-f.  
 1887. *K. r.*, de Man, Arch. Naturg., vol. liii, p. 343, pl. 14, fig. 2.  
 1906. *K. r.*, Rathbun, U.S. Fish. Comm. for 1903, p. 875.  
 1910. *K. r.*, Stebbing, Ann. S. Afr. Mus., vol. vi, p. 310.

A male specimen, with carapace 15 mm. broad and between 12 and 13 mm. long, was taken by Mr. Bell Marley at Durban Bluff. He says that it "burrows in sand quickly under rocks and stones." The correspondence of the teeth on front and sides and the scale-like markings on the back of the carapace with the figures and descriptions above cited make the identification of this apparently rare species secure.

TRIBE CATOMETOPA.

FAMILY OCYPODIDÆ.

GENUS EUPLAX, Milne Edwards.

1852. *Euplax*, Milne Edwards, Ann. Sc. Nat. ser. 3, vol. xviii, p. 160.  
 1858. *Chænostoma*, Stimpson, Pr. Ac. Philad., vol. x, p. 97 (43).  
 1886. *Euplax*, Miers, "Challenger" Brachyura, p. 251.  
 1887. *E.*, de Man, J. Linn. Soc. London, vol. xxii, no. 137, p. 125.  
 1907. *Chænostoma*, Stimpson, Smithson. Misc. Collections, vol. xlix, p. 97.

In establishing the genus, Milne Edwards identifies the third maxillipeds with those of *Macrophthalmus*, while de Man, in Arch. Naturg., vol. li, p. 353, says that *Euplax* is distinguished from *Macrophthalmus* by having the merus in these maxillipeds only a little smaller than the ischium and almost as long as broad. Stimpson distinguishes his *Chænostoma* from de Haan's *Cleistostoma*, because of the gap between the pair of third maxillipeds.



## EUPLAX BOSCHI (Audouin).

1825. *Macrophthalmus boscii*, Audouin, Explic. pl. Crust. d'Egypte, Savigny, pl. 2, figs. 2 ♂, 2♂, 2 ♀, and ♂, ♀ nat. size.
1835. *Cleistostoma boscii*?, de Haan, Crust. Japon., decas 2, p. 27.
1837. *Cleistotoma b.*, Milne Edwards, Hist. Nat. Crust., vol. ii, p. 68.
1843. *Macrophthalmus b.*, Krauss, Südafrik. Crust., p. 40, pl. 2, figs. 5, a-c.
1852. *Cleistostoma b.*?, Dana, U.S. Expl. Exp., vol. xiii, p. 313, pl. 19, figs. 3a-d.
1852. *Euplax bosci*, Milne Edwards, Ann. Sci. Nat., ser. 3, vol. xviii, p. 160.
1858. *Chaenostoma orientale*, Stimpson, Pr. Ac. Philad., vol. x, p. 77 (43).
1883. *Euplax (Chaenostoma) boscii*, A. Milne-Edwards, Nouv. Arch. Mus. Hist. Nat., vol. ix, p. 281 (Miers).
1884. *E. (C.) b.*, Miers, "Alert" Crust., pp. 238, 542.
1886. *E. (C.) b.*, Miers, "Challenger" Brachyura, p. 252.
1887. *E. b.*, de Man, J. Linn. Soc. London, vol. xxii, p. 125.
1888. *E. b.*, de Man, Arch. Naturg., vol. liii, p. 357.
1907. *Chaenostoma orientale*, Stimpson, Smithsonian Misc. Collections, vol. xlix, p. 98 (footnote: *Euplax boscii*, Rathbun).

Krauss refers this species to Savigny's pl. 2, fig. 1, by mistake for fig. 2, and in this error is followed by Milne Edwards in 1852 (though correct in 1837) and by Miers in 1896. Krauss, in his Latin description, confuses the dimension of the front with that of the eyes, but his German account rightly states that the eyes are somewhat longer than a third of the breadth of the carapace.

Two specimens, a male and a female, have been collected in Durban Bay by Mr. D. R. Boyce. The male pleopods agree with Savigny's figure 2b. The carapace is 9.5 mm. broad, 7.5 mm. long, with frontal lobe somewhat over 2 mm. wide. The lower margin of the orbit is nearly straight, crenulate with some dozen bead-like granules. The right hand chela is the larger, with a broad tooth near the base of the inner margin of the movable finger, while the fixed finger is continuously crenulate on that margin, the components being enlarged towards the spooned tip. The sixth pleon segment widens slightly to a raised point on either side, the sides then slightly converging. The pleon of the female is very broad. The mandibles have a well developed three-jointed palp. The palp of the first maxilla is much widened near its apex. There is a wide gap between the third maxillipeds.

## BRACHYURA ANOMALA

## TRIBE DROMIIDEA.

## FAMILY DROMIIDÆ.

See Ann. S. Afr. Mus., vol. vi, pp. 341, 342; 1910; and add 1913,  
*Dromiide*, Ihle, Siboga Exp., Dromiacea, vol. xxxixb, p. 3.

## GENUS CRYPTODROMIA, Stimpson.

1858. *Cryptodromia*, Stimpson, Pr. Ac. Philad., vol. x, p. 225.  
 1887. *C.*, de Man, Arch. Naturg., vol. liii, p. 398.  
 1888. *C.*, Henderson, "Challenger" Anomura, vol. xxvii, pt. 69, p. 5.  
 1901. *C.*, Alcock, Catal. Indian Brachyura, fasc. i, p. 48.  
 1903. *C.*, Borradaile, Ann. Nat. Hist., ser. 7, vol. xi, p. 299.  
 1907. *C.*, Stimpson, Smithson. Misc. Collections, vol. xlix, p. 172.  
 1907. *C.*, W. H. Baker, Tr. R. S. South Australia, vol. xxxi, p. 180.  
 1907. *C.*, Nobili, Ann. Sci. Nat., ser. 9, Zool., vol. iv, p. 145.  
 1911. *C.*, Rathbun, Tr. Linn. Soc. London, vol. xiv, p. 194.  
 1913. *C.*, Ihle, Siboga Exp., Dromiacea, vol. xxxixb, p. 32.

## CRYPTODROMIA MONODOUS, sp. nov. Plate VIII.

The carapace has a depressed, but apically slightly up-turned, tooth in front. To the solitariness of this the specific name refers. Instead of the usual flanking teeth there is on either side a convex prominence constituting the upper border of the orbit. The general surface of the carapace is quite devoid of grooves, finely punctate, with a short pubescence; the antero-lateral border on the right showing eight teeth or tubercles, the two preceding the hindmost very small and without counterparts on the left side. Apart from the rostral depression and depressions adjoining the postero-lateral margins, on which the fifth pereopods rest, the carapace is much inflated, and this character with the strong convexity of the pleon gives the whole structure a globose appearance.

The eyes are small in comparison with the stoutness of the stalk. In the first antenna the third joint is longer than the second. In the second antenna the third joint is clasped by the projections of the second joint; the slender flagellum is about as long as the stout peduncle.

The palp of the mandible is two-jointed, but it is fairly certain that the first joint is composite, having the short first joint coalesced with the true second; the true third is strongly fringed with setæ. The palp of the first maxilla has a broad first joint followed by a narrow piece seemingly two-jointed, perhaps a single joint twisted.

The mouth-organs are very similar to those figured by Ihle for *C. tumidus*. Here the exopod of the second maxilliped is rather less prolonged. The fourth joint of the third maxilliped is of rather irregular shape, and its articulation with the third joint forms an angle so that the two surfaces resist flattening.

The fingers of the chelipeds have their confronting margins denticulate each with eight or nine rounded teeth, the extremity of each finger being tridentate; a smooth margin on a different level borders each row of teeth. The second and third peræopods have the narrow seventh joint terminated by a curved unguis set among rather long setæ. In the fourth and fifth peræopods the short stout sixth joint carries an unguis-like finger and a spine curving towards it so as to form a kind of diminutive chela. The fifth peræopod is very decidedly longer than the fourth. The sternal sulci of the female end widely apart and opposite the coxæ of the second peræopods.

The first pleopods of the female are slender, single-branched; the four following pairs are two-branched, elongate, the outer branch densely setose, the shorter inner one more sparsely. The ova of the present specimen were a bright red. They had not passed the oviduct into the capacious pleon. The narrow transverse plates attached ventrally by the inner corner to the distal part of the sixth pleon segment may be regarded as the sixth pleopods or the uropods, though their function has become problematical.

The carapace measures 21 mm. in breadth by 20 mm. in length, thus being of considerable size for this genus. A red glow remains on various parts of the specimen as preserved. It held about it a broad strip of some composite zoophyte.

Locality: Vetch's pier, Durban, collected in July, 1917, by Mr. Bell Marley.

## MACRURA ANOMALA.

## TRIBE GALATHEIDEA.

## FAMILY PORCELLANIDÆ.

## GENUS PETROLISTHES, Stimpson.

1858. *Petrolisthes*, Stimpson, Pr. Ac. Philad., vol. x, p. 227 (65).  
 1907. *P.*, Nobili, Ann. Sci. Nat., ser. 9, zool., vol. iv, p. 129.  
 1907. *P.*, Stimpson, Smithson. Misc. Collections, vol. xlix, p. 181.

## PETROLISTHES SPECIOSUS (Dana).

1852. *Porcellana speciosa*, Dana, U.S. Expl. Exp., vol. xiii, p. 417,  
 pl. 26, fig. 8.  
 1858. *Petrolisthes speciosus*, Stimpson. Pr. Ac. Philad., vol. x, pp.  
 227, 241 (79).  
 1907. *P. s.*, Stimpson, Smithson. Misc. Collections, vol. xlix, p. 182,  
 pl. 22, fig. 2 (facing p. 184).

Dana writes of this species as having "hand minute granulous, naked," but also as having the hands "granulous on both surfaces." In the Natal specimen the inner side is covered with squamose markings and the outer is conspicuous for a longitudinal ridge; the carpus has several teeth along both margins. The colour is in general agreement with Dana's figure, but with a beautifully symmetrical pattern on the carapace.

Locality: From the sponge *Cerao chalinus*, taken by Mr. Bell Marley, on rocks, Vetch's pier, Durban.

From the same sponge occurred a male specimen of *Porcellana dehaanii*, Krauss.

## MACRURA GENUINA.

## TRIBE SCYLLARIDEA.

## FAMILY PALINURIDÆ.

## GENUS PANULIRUS, White.

See Ann. S. Afr. Mus., vol. vi, pp. 372-374.

## PANULIRUS ORNATUS (Fabricius).

1793. *Cancer (Astacus) homarus* (part), Herbst, vol. ii, pt. 3, p. 84, pl. 31, fig. 1.  
 1798. *Palinurus ornatus*, Fabricius, Suppl. Ent. Syst., p. 400.  
 1837. *P. o.*, Milne Edwards, Hist. Nat. Crust., vol. ii, p. 296.  
 1891. *Senex ornatus*, Ortmann, Zool. Jahrb., vol. vi, p. 34.  
 1897. *Panulirus sp.*, Ortmann, Zool. Jahrb., vol. x, p. 266.

It is clear, I think, that the beautiful specimen obtained by Mr. Bell Marley at Durban belongs to the species represented by Herbst in his plate 31, fig. 1, but his text covers more than one species and the name he gives is here unavailable. The account, however, which Fabricius gives of his *Palinurus ornatus* is quite suitable to the Natal specimen, for which also the specific name is highly appropriate, so that I am unwilling to accept Ortmann's verdict that it ought to be dropped. As Fabricius says, the segments of the pleon are smooth, altogether without a furrow, though this is true also of *P. polyphagus* (Herbst), seemingly near to *ornatus* but distinct from it.

Mr. Bell Marley's account of the colouring in the freshly captured animal is as follows: "The carapace is a really dark turquoise blue, the spines coral red, with bases orange in the larger spines, the [pleon] segments are green (sage) with brown, at the sides are cream spots; about head much pink with white, brown and blue marks; the antennæ light red at head and ending in brown and dark brown; legs marbled brown and yellow, toes red." This description, dated 31st July, 1917, is still in many respects applicable to the specimen as received in Tunbridge Wells, September 21st. But the dark turquoise blue of the carapace has taken something of a greenish

tinge; the legs are marbled brown and yellow in their proximal parts, but distally they have dark blue markings such as Herbst's figure shows for almost the whole extent; the fingers have red spines. Milne Edwards ascribes to *ornatus* alternating rings of green and yellow on the limbs. Fabricius says that the legs are all blue fasciated with white, which Ortmann supposes to mean that they have longitudinal white stripes, but that I think is a misunderstanding of the term *albofasciatus*. Fabricius gives the general colour as green with the sides spotted with white. Milne Edwards expands this into green with little whitish blotches on the thorax, and marblings on the abdomen. Mr. Bell Marley writes as above that the segments (no doubt of the pleon) are sage green, which is no longer applicable to the first five segments, these being pale brown, with a band of dark brown crossing each of the last four of them, each having a narrow oblique bluish green stripe on either side, followed by an oval cream-coloured spot. The frontal horns and surrounding parts of the carapace have elegant zebra markings, in which also the eyes partake. Varieties of tint assigned in different descriptions and illustrations are likely to depend more on the condition of the specimens examined than on any material variation in the living forms.

The specimen here described, a female, measures 363 mm. ( $14\frac{1}{2}$  inches) from the front of the plate which carries the first antennæ to the end of the telson, or 248 mm. to that margin from the front of the ophthalmic segment. The third pereopods are the longest.

Mr. Bell Marley considers the species rare, preferring quiet water, generally deep water near sand-banks. It takes fish bait, and "when landed it makes a great disturbance and flounders about with its tail, shooting backwards and forwards its feelers in angry surprise."

#### TRIBE PENÆIDEA.

#### FAMILY PENÆIDÆ.

#### GENUS PENÆUS, Fabricius, 1798.

See Ann. Durban Mus., vol. i, pt. 5, p. 441.

#### PENÆUS JAPONICUS, Bate.

The synonymy from 1888 to 1906 is supplied in Dr. de Man's valuable work on the Penæidæ of the Siboga-Expeditie, Mon. 39a, p.

107, 1911. Bate, in the "Challenger" Macrura, introduced the species as a variety of *Penæus canaliculatus*, Olivier, 1811.

The specimen sent me by Mr. Bell Marley, from the sand-banks of Durban Bay, measures 116 mm. from apex of rostrum to the tip of the telson. In the central line of the carapace it has eleven dorsal teeth, and there is a single ventral tooth to the rostrum, which itself coincides in extension with the lateral tooth of the antennal scale. For the sulcate acute-ending telson, Mr. Bell Marley gives the colouring when fresh as dark red in the middle, pale brown proximally, and distally white; and for the uropods a succession of white, dark red, white, yellow, pale blue, with a fringe of carmine setæ. The specimen, as preserved, is still suggestive of its decorative appearance when alive.

Date of capture: 26th July, 1917.

### TRIBE CARIDEA.

#### FAMILY PROCESSIDÆ.

#### GENUS PROCESSA, Leach.

For these systematic divisions see Gilchrist's Marine Invest., S. Afr. Crust., pt. 3, p. 89, 1905, and S. Afr. Crust., pt. 5, in Ann. S. Afr. Mus., vol. vi, pp. 381, 387; 1910.

#### PROCESSA sp.

Along with numerous other species of small size from the sponge *Cerao chalinus*, was a specimen of the genus *Processa*, measuring only 6 mm. in length. After dissecting and drawing some of the details I gave up the hope of deciding whether this was a young form of *P. canaliculatus*, Leach, or deserving of some other specific designation. The short rostrum has a setule on each side of the acute apex. The telson carries three pairs of dorsal spines, with three pairs on the apical margin, the outermost small, the middle pair shorter and more slender than the intermediate pair. Of the short first peraeopods only one is chelate; of the very slender second pair both members are elongate, but unfortunately one had its termination imperfect. In the first antennæ the first joint of the peduncle is longer than the second and third combined, the second is shorter than the third. The palp of the first maxilla is as figured by de Haan for "*Nika edulis*"; the exopod of the third maxillipeds is not one-third of the length of the long antepenultimate joint; the terminal joint is spinose. The figures in de Haan are evidently not to a uniform scale.

## ISOPODA ANOMALA OR APSEUDACEA.

## FAMILY TANAIIDÆ.

## GENUS TANAIS, Milne Edwards.

1828. *Tanais*, Milne Edwards, Ann. Sci. Nat., ser. 1, vol. xiii, p. 288.

## TANAIIS PHILETERUS, Stebbing.

1904. *Tanais phileterus*, Stebbing, Spolia Zeylanica, vol. ii, pt. 5, p. 7, pl. 2.

A specimen about 1.5 mm. long closely agrees with the description and figures given in the report on "Gregarious Crustacea from Ceylon," though in so small a specimen specific distinction must be rather uncertain. It shares the character of a four-jointed uropod with four other species named in the report above mentioned. Small as it is, it suffices to add a genus to the gathering from the sponge *Cerao chalinus*.

## GENUS LEPTOCHELIA, Dana.

1849. *Leptocheilia*, Dana, Amer. J. Sci., ser. 2, vol. viii, p. 425.

## LEPTOCHELIA DUBIUS (Kröyer).

1842. *Tanais dubius*, Kröyer, Naturhist. Tidsskrift, vol. iv, pp. 178, 182, figs. 20-22.
1896. *Leptocheilia dubia*, Stebbing, Ann. Nat. Hist., ser. 6, vol. xvii, p. 159.
1905. *L. d.*, H. Richardson, Bull. U.S. Nat. Mus., no. 54, pp. 23, 28, figs. in text.

In the yield of the sponge *Cerao chalinus* were contained two specimens apparently referable to this species of the genus *Leptocheilia*, a male about 3 mm. long and a female rather shorter. The first antennæ are very different in the two sexes, especially in the flagellum, which is quite inconspicuous in the female, but in the male has six



setose joints. The first gnathopods also differ considerably, having the carpus and hand much more elongate in the male, the finger strongly upturned at the apex and bidentate on the inner margin. The uropods are not distinctive, having in each sex the endopod five-jointed, with a one-jointed exopod.

In 1896, I overlooked the fact that Krøyer, in speaking of the endopod as *se.varticulatum*, was including the peduncular joint.

#### GENUS HAPLOCOPE, G. O. Sars.

1880. *Haplocope*, Sars, Archiv. Naturv., vol. vii, p. 51.  
 1899. *H.*, Sars, Crust. Norway, vol. ii, p. 34.  
 1913. *H.*, Hansen, Danish Ingolf-Exp., vol. iii, Crust. Malac., pt. 2, p. 102.

#### HAPLOCOPE OCVLATUS, sp. nov.

This species differs from the type by having eyes; the penultimate joint of the second antenna less elongate; the carpus and hand of the first gnathopod broader in proportion to the length; the two joints of the endopod in the uropod much shorter and the exopod one-jointed. The general proportions, first antennæ, second gnathopods, peræopods, and the simple pleopods agree with those parts in *H. angustus*, Sars. The length is about 2 mm.

Locality: Vetch's pier, from the sponge *Cerao chalinus*.

## AMPHIPODA.

### TRIBE GAMMARIDEA.

#### FAMILY LYSIANASSIDÆ.

See Das Tierreich, Lief. xxi, Amph. Gamm., pp. 6, 8, 717; 1906.

#### GENUS MICROLYSIAS, nov.

Terminal joint of peduncle of second antenna in male sex the longest and broadest, the flagellum by degrees attaining a great length, much

of it then being of thread-like tenuity. Mouth-organs and limbs of feeble structure, though in shape the latter show much agreement with those of *Orchomenopsis*, Sars. As in that genus the palp of the mandible is set far back, but its first joint instead of being short is rather unusually long, the whole palp longer than the trunk, on which there is an inconspicuous molar. The branchial vesicles are pleated. The telson is deeply cleft.

The generic name calls attention to the family to which the new genus belongs, and the prefix refers not to the smallness of the specimens, but to the general tenuity of their apparatus.

MICROLYSIAS XENOKERAS, sp. nov. Plate IX.

The seemingly unique character of the second antennæ has suggested the specific name *xenokeras* from the Greek ξένος, strange, and κέρα, antenna. This designation might have been appropriate for the genus, but was precluded by external considerations of nomenclature.

The first side-plate of the pereon is distally produced forward in a rounded lobe, the fourth is deeply excavate. The third pleon-segment has the lower hind angle not extended. The following segment is dorsally arched. The telson (as preserved) is stiffly uplifted, each of the blunt apices carrying a small spine, the sides also being bordered with five or six spinules.

The dark eyes are more or less oval, covering much of the head as the animal increases in size. The first antennæ are normal, with first joint of peduncle and first of flagellum very stout, the first of the accessory flagellum slender. The remarkable second antennæ vary greatly with age and sex. In all the variations observed of the male the terminal joint of the peduncle is the largest, but in small specimens this carries a tapering flagellum shorter than the peduncle, with only a few indistinct joints at the slender termination. In small and large alike the penultimate joint of the peduncle has a tuft of setæ near the end of its upper margin, and the last joint has this margin fringed with setules. In the well developed male the flagellum becomes slender from its commencement, with attachment to the top, instead of the middle, of the broad distal margin of the peduncle. The joints are very small, and in a flagellum about five times as long as the peduncle they were over 60 in number, seemingly unarmed. In a larger animal this length was greatly exceeded, and many of the

proximal joints seemed to be armed with microscopic calceoli and setules, while for a great extent distally the joints were lengthened, unarmed, and of thread-like tenuity. In a female with well filled ovary, while the first antennæ are just like those of the male, the second are very different, except that the peduncle is angularly bent. But here its terminal joint is more than twice as long as broad, not very much longer than the preceding joint and a little narrower, with a slender flagellum of seven or eight joints medially attached in the ordinary manner.

The details of the mandibular trunk are difficult to make out with certainty. There seems to be a small triangular molar, and on one mandible a transparent accessory plate attended by two small spines. There is a little process on the upper margin just behind the small cutting edge. The first maxillæ show a narrow inner plate, the outer plate short with eight serrate spines on its broad top, which is surpassed by the minutely denticulate distal margin of the two-jointed palp. The maxillipeds like the maxillæ are much compressed, resisting attempts to flatten them out. The inner plates appear to be narrowly elongate, the outer broad, with only the minutest armature.

The first gnathopods are sub-chelate, the hand a little narrowed distally, where the small finger fits the slightly excavate distal margin; all the joints of this and the following limbs having a membranaceous appearance. The second gnathopods are microscopically chelate. The first and second pereopods are alike, differing from those which follow by the much narrower second joint and the rather longer fourth. The normal proportions of the third, fourth and fifth pairs are sufficiently shown by the illustrations. The pleopods have several coupling setae. The exact armature of the uropods requires higher magnification than space on the plate permitted. Length of the largest specimens barely 6 mm.

Locality: Vetch's pier, Durban, from sea-squirt at two fathoms, collected by Mr. Bell Marley, July, 1917.

#### FAMILY PONTOGENEIIDÆ.

1906. *Pontogeneiidae*, Stebbing, Das Tierreich, Lief. xxi, pp. 356, 729.  
1916. *P.*, Barnard, Ann. S. Afr. Mus., vol. xv, pt. 3, p. 183.

## GENUS PARAMCERA, Miers.

1875. *Paramera*, Miers, Ann. Nat. Hist., ser. 4, vol. xvi, p. 75.  
 1888. *Stebbingia*, Pfeffer, Jahrb. Hamburg. Anst., vol. v, p. 110.  
 1913. *Paramera*, Chilton, Jahrb. Hamburg. Anst., vol. xxx, Beiheft 2, p. 58.

## PARAMERA SCHIZURUS, sp. nov. Plate X.

This small species between three and four millimetres in length was unfortunately devoid of the third uropods. The specific name refers to the completely divided telson, by which it appears to be separated from the rest of the family. The body is very slender and the shape of the apparently shallow side-plates of the pereon could not be ascertained. The first antennæ are without accessory flagellum; the principal flagellum is well developed, four-jointed, as long as the peduncle, of which the third joint is about three-fourths the length of the second. The rather shorter second antennæ have a seven-jointed flagellum. The palp of the mandibles is not strong, the third joint a little shorter than the second, with few setæ. In the maxillipeds the penultimate and antepenultimate joints of the palp are conspicuously broad.

The first gnathopods have the hand widest at the junction of the slightly convex palm with the hind margin, the carpus nearly as long as the hand. In the second gnathopods the hand, considerably longer than the carpus, has the front and hind margins parallel, connected by an oblique palm. In the pereopods the sixth joint is longer than the fifth, nearly thrice as long as the finger. The telson is not longer than broad.

Locality: from the sponge *Cerao chalinus*, collected at Vetch's pier, Durban, by Mr. Bell Marley.

## FAMILY TALITRIDÆ.

See Ann. S. Afr. Mus., vol. vi, p. 458.

## GENUS EXHYALELLA, Stebbing.

1917. *Exhyalella*, Stebbing, Ann. Nat. Hist., ser. 8, vol. xx, p. 435.

Distinguished from *Hyalella*, S. I. Smith, by having the second gnathopod constructed on the same plan in both sexes.

## EXHYALELLA NATALENSIS, Stebbing. Plate XI.

1917. *Exhyalella natalensis*, Stebbing, Ann. Nat. Hist., ser. 8, vol. xx, p. 435.

The body as preserved smooth, shining, rather obstinately curved. The first four side-plates deep, the first rather expanded distally, the fifth bilobed. Eyes dark, round or oval.

Flagellum of first antenna many-jointed, about twice as long as the peduncle, equal to flagellum of the second antenna, which is sub-equal to its peduncle, that having its last joint longer than the penultimate.

Mandible with cutting edge and accessory plate dentate, spine-row of three moderately long and three short spines; molar strong. Inner plate of first maxilla slender, with two apical setæ, one quite short, outer plate with eight pectinate spines, prominence for palp well marked, but palp itself microscopic. The two plates of second maxilla well furnished with spines. Maxillipeds with inner plates long, the outer short, the palp's first three joints broad, the fourth slender, ending in a distinct unguis.

First gnathopod of male with fifth joint longer than sixth, the distal projection carrying small spines, the hand with squared palm, carrying a strong spine, on which the apex of the short finger impinges. In the female this gnathopod is slighter, the fifth joint not longer than the hand, which is about twice as long as broad. Second gnathopod of male with short fifth joint or wrist, of which a narrow lobe intervenes between the oblong fourth joint and the large piriform hand. The long, oblique, spine-fringed, slightly convex palm leaves a very short hind margin. The finger is strong and curved. In the female this model is followed, though with shorter third and fourth joints, a smaller hand and its hind margin not serrate.

The first and second pereopods are slender, the three following have each an expanded second joint, the following joints, except to some extent the fourth, being slender. The third pereopod is the shortest, the fourth somewhat longer than the fifth.

The first and second uropods have the usual proportions and armature; the third are very small, with the peduncle much larger than the ramus. The telson is about as broad as long, apically obtuse-angled, more obtusely in the female than in the male. The colour as preserved is orange red. The length appears to be about 11 mm. for the male, and a little less for the female. The young are born with their full complement of limbs.

Locality: Durban Beach, where they were collected by Mr. Bell Marley. A small specimen also was obtained from the sponge *Cerata chalinus*, off Vetch's pier.

## FAMILY PHOTIDÆ.

See Das Tierreich, Lief. xxi, pp. 603, 737, 1906; and Ann. S. Afr. Mus., vol. vi, pt. 4, p. 460, 1910.

## GENUS EURYSTHEUS, Bate.

1857. *Eurystheus*, Bate, Ann. Nat. Hist., ser. 2, vol. xix, p. 143.  
 1910. *E.*, Stebbing, Ann. S. Afr. Mus., vol. vi, p. 460.  
 1916. *E.*, Barnard, Ann. S. Afr. Mus., vol. xv, p. 249.

## EURYSTHEUS HOLMESI, Stebbing.

1908. *Eurystheus holmesi*, Stebbing, Ann. S. Afr. Mus., vol. vi, p. 85, pl. 40A.

In allotting to this species a specimen about 4 mm long, obtained by Mr. Bell Marley from the sponge *Cerao chalinus*, I am relying on the variability which seems to prevail in this genus. Here the second gnathopods, while agreeing with the particular denticulation of the palm previously described, are much wider at the terminal tooth, so that the palm is less oblique and the hind margin longer than in the type. Also the second joint of the third pereopod, though wider proximally than distally, is devoid of the abrupt narrowing remarkable in the form earlier described. The principal flagellum of the first antennæ, imperfect in the type, is here ten-jointed, with accessory of four instead of six joints.

Locality: Vetch's pier, Durban.

## GENUS CHEIRIPHOTIS, A. C. Walker. Plate XII.

1906. *Cheiriphotis*, Walker, Herdman's Ceylon Pearl Fish., vol. ii, pp. 234, 283.  
 1910. *C.*, Stebbing, Ann. S. Afr. Mus., vol. vi, p. 461.

## CHEIRIPHOTIS WALKERI, sp. nov. Plate XIII.

This species is distinguished from *Cheiriphotis megacheles* (Giles) by the first gnathopods, which have a well marked emargination in the oblique, but well expanded, palm, and by the second gnathopods, in which the palm, instead of being cut into four or five well defined teeth, has only two of such a kind, and of these the outermost much

stouter than in the other species. Between this and the tooth near the finger-hinge the border is undulating with two small depressions. This character is uniform in a detached gnathopod, and in both members of the pair in each of two specimens. And here it may be noticed that these limbs of unwieldy size are well matched, not being a giant and a dwarf side by side, as so often happens when a gnathopod is of abnormal magnitude. The wrist appears to be entirely absorbed in the enormous hand. As in the type species, the second joint of the first pereopod is strongly bent proximally, no doubt to enable the limb to get a place in the sun free from its overpowering neighbour. A young specimen of the male shows the emargination of the palm border in the first gnathopods, but in the second the outermost tooth of that border is small, and the remainder nearly the same as in Walker's figure of the hand in the young male of *C. megacheles*. Here there is no more distinction of the wrist than in the adult, and the proportions of length and breadth are similar; the finger is apically acute, the bluntness in adult stages being possibly due to usage.

The small third uropods are single-branched, the endopod being doubtfully represented by what looks like, and may possibly be, a minute spine. The exopod is tipped with a small spine and some setæ, and there are three spines on the inner margin. No stress can be laid on this detail, since Walker shows only one spine on the border in question, while Giles gives it four or five spines in his figure.

The adult specimens had a length between three and four millimetres, but were difficult to measure, the one having the dorsal line very convex and the other having it very concave.

Locality: Mr. Bell Marley reports these and many other specimens "from large *Cerao chalinus* sponge washed up from Vetch's pier rocks during gale, 18th July, 1917 (18 to 20 feet depth), Durban coast."

The species is named out of respect to my valued friend, A. O. Walker, F.L.S., who instituted the genus.

*Cheiriphotis durbanensis*, Barnard, 1916, published without illustrative figures, had escaped my notice. Upon subsequent comparison I expected to find that it anticipated the species above described from the same locality, but on comparing the details of the antennæ and gnathopods, I think that the species are distinct.

#### FAMILY PODOCERIDÆ.

See Das Tierreich, Lief. xxi, pp. 694, 741; 1906,

GENUS PODOCERUS, Leach, 1813.

PODOCERUS INCONSPICUUS (Stebbing).

1888. *Platophium inconspicuum*, Stebbing, "Challenger" Amphipoda, vol. xxix, p. 1194, pl. 131.  
 1906. *Podocerus inconspicuus*, Stebbing, Das Tierreich, Lief. xxi, pp. 701, 702.

A specimen of this minute species was included in Mr. Bell Marley's gathering from the sponge *Cerao chalinus*.

## LEPTOSTRACA, Claus.

See Encyclopædia Britannica, ed. 10, vol. xxviii, 1902, and ed. 11, under Entomostraca.

### FAMILY NEBALIIDÆ.

See G. O. Sars, Fauna Norvegiæ, vol. i, p. 6, 1896.

### GENUS NEBALIA, Leach.

1815. *Nebalia*, Leach, Zoological Miscellany, vol. i, p. 99.  
 1896. *N.*, Sars, Fauna Norvegiæ, vol. i, p. 7.  
 1900. *N.*, Stebbing, Willey's Zool. Results, pt. v, p. 659.  
 1914. *N.*, Barnard, Ann. S. Afr. Mus., vol. x, p. 443.

### NEBALIA BIPES (O. Fabricius).

1780. *Cancer bipes*, O. Fabricius, Fauna Grœnlandiæ, no. 223.  
 1896. *Nebalia bipes*, Sars, Fauna Norvegiæ, vol. i, p. 9, pl. 1, figs. 1-3, pls. 2, 3, pl. 4, figs. 1-8, pl. 5.

A small specimen from the sponge *Cerao chalinus* appears to belong to this species, and to be distinct from that which Mr. Barnard has recently described as *Nebalia capensis*. It is interesting as an addition to the group of crustaceans which the above-mentioned sponge has yielded.



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| Penæidæ - - -                  | 60   | Tanaidæ - - -                  | 62   |
| Penæidea - - -                 | 60   | Tanais - - -                   | 62   |
| Petrolisthes - - -             | 58   | tetraodon (Blastus) - - -      | 50   |
| philetærus (Tanais) - - -      | 62   | Thiidæ - - -                   | 53   |
| Photidæ - - -                  | 68   | tumidus (Cryptodromia) - - -   | 57   |
| Pilumnus - - -                 | 53   | walkeri (Cheiriphotis) pl. XII | 68   |
| Platophium - - -               | 70   | Xanthidæ - - -                 | 51   |
| Platyonichus - - -             | 54   | Xantho - - -                   | 51   |
| Podoceridæ - - -               | 69   | xenokeras (Microlysias) - - -  | 64   |

## EXPLANATION OF PLATES VIII–XII,

illustrating paper by the Rev. T. R. R. Stebbing on  
"Some Crustacea of Natal."

## PLATE VIII.

*Cryptodromia monodous*, sp. nov.

- n.s. Lines indicating natural size of carapace shown in the adjoining dorsal view of a female specimen, with limbs and part of pleon in attachment.
- St., c.o. Sternum with coxæ of the limbs on left of the figure, the coxa of the third peræopod perforated by the oviduct.
- Pl. Dorsal view of the pleon incompletely flattened.
- urp. Ventral view of the sixth pleon-segment with its appendages (uropods or sixth pleopods) and the telson with opening of alimentary canal).
- oc. The eye; this with the first and second antennæ, mandible, and distal portion of fourth peræopod more highly magnified than the other details.
- mx. 1, mx. 2, mxp. 1, mxp. 3. First and second maxillæ, first and third maxillipeds; on a higher scale than the limbs.
- a.s., a.i., m. First and second antennæ and mandible.
- prp. 1, 2, 4, 5. First, second, fourth, and fifth peræopods; fingers of the cheliped (prp. 1) as seen from the inner side at a different angle. The figures of the third maxilliped and the peræopods are all from the unexposed surfaces.

## PLATE IX.

A. *Leptocheilia dubius* (Kröyer).

- a.s., a.i. First and second antennæ of the male.
- a.s., a.i. ♀. First and second antennæ of the female.
- gn. 1. First gnathopod of male.
- prp. 5. Fifth peræopod of male.
- urp., urp. ♀. Uropods of male and female.

B. *Haplocope oculus*, sp. nov.

Figure on the left a profile view of specimen much enlarged.

- a. s., a. i. First and second antennæ.  
 gn. 1, gn. 2. First and second gnathopods.  
 urp. Uropod.

C. *Paramera schizurus*, sp. nov.

- n. s. Line showing length of specimen enlarged in profile view below.  
 a. s., a. i. First and second antennæ more magnified.  
 mxp. One of the maxillipeds.  
 gn. 1, gn. 2, prp. 2, prp. 5. First and second gnathopods, second and fifth peræopods.  
 urp. 1, urp. 2, T. First and second uropods and telson.

## PLATE X.

*Microlysias xenckeras*, gen. et sp. nov.

- n. s. Line indicating actual length of male specimen figured below.  
 a. s. First antenna of male, with the flagellum more highly magnified.  
 a. i. ♂, a. i. ♀. The second antenna of male in three stages of growth, that of the young with the distal part more highly magnified, that of the fully developed male incomplete for want of space, with three joints more highly magnified; the second antenna of a fully developed female to the same scale as the first and second of the male.  
 m., m. A mandible, the upper figure from a female, the lower from a male specimen.  
 mx. 1, mx. 2, mxp., mxp. ♀. First and second maxillæ of a male with higher magnification for part of outer plate of the first; maxilliped of male, somewhat distorted; maxilliped of female partial.  
 gn. 1, gn. 2. First and second gnathopods, each with higher magnification of distal portion.  
 T., urp. 1, 2, 3. Telson of male in dorsal view, and the first, second, and third uropods.